



UNIVERSITY OF
FLORIDA

IFAS EXTENSION

Friday's Feature

By

Theresa Friday

November 13, 2006

Problems erupt when you volcano mulch

In many manicured landscapes, plants often seem to grow out of large peaks made of mulch. Volcano mulching, or mulch applied too deep around the base of a plant, does more harm than good.

Mulch applied incorrectly generally causes long-term stress on the plant. Long-term stress makes plants more prone to injury from insects, diseases and environmental extremes.

As a general rule, mulching plants is good and provides many benefits. It helps to keep the roots evenly moist. Mulch acts to insulate roots from extreme heat and cold. Fresh mulch inhibits weed germination and growth. Mulch serves as a barrier to certain soil-borne diseases. Over time, as organic mulch breaks down, it actually improves soil fertility, soil aeration, structure and drainage.

Done properly mulching is one of the best things you can do to help plants get established and survive environmental extremes. But there's a right way to do it. And making mulch volcanoes isn't it.



According to researchers at the University of Georgia, mulch volcanoes can be particularly deadly to newly planted trees and shrubs. They cause two types of problems.

First, mulch volcanoes encourage roots to grow the wrong way. At first, the conditions in the top of the volcano are moist and attractive to roots while the waterlogged soil under the volcano suffocates deep roots. The roots grow up, rather than down.

In the long run, however, mulch can't hold nearly as much water as the soil. So when the mulch volcano dries out, the plants can be severely stressed.

Secondly, fungal activity can make the umbrella-shaped surface become resistant to wetting. The volcano acts as an umbrella, shedding water to the surrounding area. Water runs off the mulch, rather than moving into it. This is more common in high-carbon mulches like ground wood, wood chips or sawdust.

You need to remember that newly planted trees and shrubs are still like container plants. Their root ball is still small and relatively confined. If the volcano-umbrella keeps the root ball dry, the plant will struggle and may not survive.

Mulch volcanoes can also cause problems for established trees. They can keep roots from getting enough oxygen, resulting in root death and decay. They trap moisture around the lower trunk which promotes rot. They also invite damage from rodents that chew the bark and girdle the tree.

The key to proper mulching is to take a look at how nature mulches plants. The natural mulch of fallen leaves is flat and rarely more than two to three inches thick. It never looks like a volcano. A deeper layer of mulch can restrict gas exchange in the soil and may keep the soil too wet during rainy periods.

A mulch layer three inches deep after settling is enough for most plants. If you can, extend the mulched areas out to the outermost leaves (called the drip line) and beyond. Don't forget to pull the mulch back a few inches from the main trunk.

Mulching properly will help keep your plants healthy. Mulch volcanoes can have the opposite effect.

Theresa Friday is the Residential Horticulture Extension Agent for Santa Rosa County. The use of trade names, if used in this article, is solely for the purpose of providing specific information. It is not a guarantee, warranty, or endorsement of the product name(s) and does not signify that they are approved to the exclusion of others.

For additional information about all of the county extension services and other articles of interest go to:
<http://www.santarosa.fl.gov/extension>.